Rule DAS240: CONNECT TIME WAS A MAJOR CAUSE OF I/O DELAY

Finding: Connect time was a major cause of the I/O delay with the volume.

Impact: This finding may have a LOW IMPACT or MEDIUM IMPACT on the performance of the device.

Logic flow: The following rules cause this rule to be invoked:
DAS200: Volume with the worst overall performance

Discussion: Connect time is the time in which the device is actually connected to the path. This time includes the data transfer time, but also includes protocol exchange (or "hand shaking") between the various components at several stages of the I/O operation.

The data transfer time obviously is a function of the amount of data being transferred. This simply is the number of bytes transferred divided by the transfer speed (for example, if 4096 bytes were transferred from an IBM-3380 with a transfer speed of 3,000,000 bytes per second, the 4096 bytes would require 4096/3,000,000 seconds; or about 1.36 milliseconds).

Large connect times generally are caused by the following situations:

- A large average block size. This situation may be highly desireable for sequential data sets, but would be undesirable for randomly accessed data.

- Long multi-track searches. For example, the catalog must be searched for cataloged files, the Volume Table of Contents (VTOC) must searched to find a requested file, a directory must be searched for partitioned data sets, etc.. These searches will result in long connect times for the volume involved.

- Program loading from system packs.

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